

SEARCH REQUEST FORM

Scientific and Technical Information Center

Access DB# 48652

Requester's Full Name: Christopher Henderson Examiner #: 60202 Date: 8-8-01
 Art Unit: 1713 Phone Number 308-2448 Serial Number: 09485195
 Mail Box and Bldg/Room Location: CP3 4B42 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

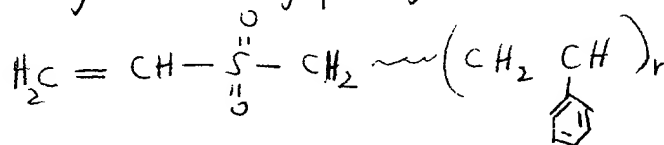
Title of Invention: VINYL SULPHONE MODIFIED POLYMER

Inventors (please provide full names): David Gohi, Friedrich Kroll

Earliest Priority Filing Date: May 8, 1997

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

I vinylsulfomethyl polystyrene



STAFF USE ONLY

Searcher: ES
 Searcher Phone #: _____
 Searcher Location: _____
 Date Searcher Picked Up: _____
 Date Completed: 8-14-01
 Searcher Prep & Review Time: 5
 Clerical Prep Time: _____
 Online Time: 45

Type of Search

NA Sequence (#) _____
 AA Sequence (#) _____
 Structure (#) (1)
 Bibliographic _____
 Litigation _____
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 Patent Family _____
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Vendors and cost where applicable

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 Dialog _____
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 Lexis/Nexis _____
 Sequence Systems _____
 WWW/Internet _____
 Other (specify) _____

9/485/95

C. Henderry

WO 99/07751

PCT/GB98/02264

34

We claim:

a

1

~~CLAIMS~~

2

3

1. A polymer comprising a side chain of formula I:

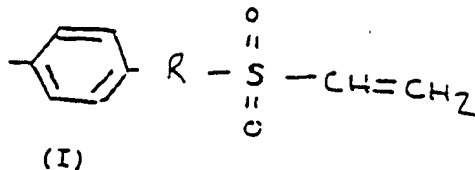
4

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a

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wherein ~~group~~ R is an alkyl, aryl, oxyalkyl or oxyaryl linker group.

11

Sub
a'

12

2. A polymer as claimed in Claim 1 having a backbone comprising an ethylene grouping which is attached to the side chain.

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3. A polymer as claimed in either one of Claims 1 and 2 wherein group R is a C₁₋₁₀ alkyl or oxyalkyl group.

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4. A polymer as claimed in Claim 3 wherein group R is a C₁₋₆ alkyl group.

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5. A polymer as claimed in Claim 4 wherein said side chain is of formula II:

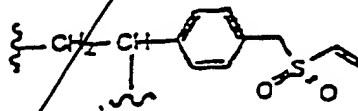
24

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26

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II



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wherein $\sim\text{CH}_2\text{--CH}\sim$ is part of the backbone of the polymer.

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6. A polymer as claimed in either one of Claims 1 and 2 wherein said side chain is of formula III:

=> file reg

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DICTIONARY FILE UPDATES: 13 AUG 2001 HIGHEST RN 351316-61-5

TSCA INFORMATION NOW CURRENT THROUGH January 11, 2001

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for details.

=> d his

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L1 FILE 'LREGISTRY' ENTERED AT 10:50:31 ON 14 AUG 2001
STR

L2 FILE 'REGISTRY' ENTERED AT 10:54:40 ON 14 AUG 2001
L3 SCR 2043
L4 1 S L1 AND L2
22 S L1 AND L2 FUL
SAV L4 HEN195/A

L5 FILE 'CAOLD' ENTERED AT 10:57:57 ON 14 AUG 2001
1 S L4

L6 FILE 'ZCAPLUS' ENTERED AT 10:58:24 ON 14 AUG 2001
14 S L4

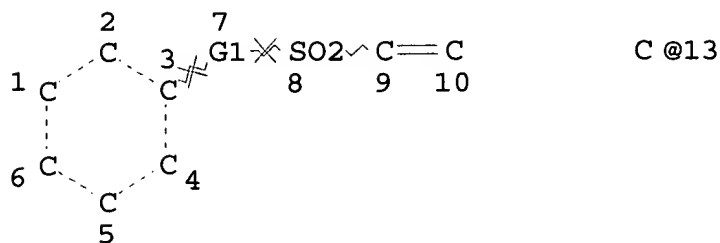
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FILE 'ZCAPLUS' ENTERED AT 11:04:29 ON 14 AUG 2001

FILE 'REGISTRY' ENTERED AT 11:04:45 ON 14 AUG 2001

=> d l4 que stat

L1 STR



REP G1=(1-10) 13
 NODE ATTRIBUTES:
 NSPEC IS RC AT 13
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
 L2 SCR 2043
 L4 22 SEA FILE=REGISTRY SSS FUL L1 AND L2

100.0% PROCESSED 1431 ITERATIONS
 SEARCH TIME: 00.00.04

22 ANSWERS

=> file caold

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 FILE LAST UPDATED: 01 May 1997 (19970501/UP)

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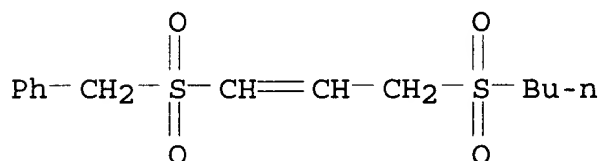
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=> d l5 1 all hitstr

L5 ANSWER 1 OF 1 CAOLD COPYRIGHT 2001 ACS
 AN CA59:426c CAOLD
 TI reactions of org. derivs. of elements capable of valency-shell
 expansion - (VIII) expts. with 1,3-bis(alkylsulfonyl)-propenes
 AU Raper, Alan H.; Rothstein, E.
 IT 594-43-4 1977-37-3 3112-90-1 7113-81-7 7560-59-0
 14094-12-3 26551-50-8 88001-93-8 89181-26-0 89181-33-9
 89693-33-4 89693-47-0 90725-22-7 91882-23-4 91970-42-2
 92036-44-7 92099-61-1 92301-12-7 92320-75-7 92320-79-1
 92372-98-0 92902-75-5 92987-49-0 92987-50-3 93164-27-3
 93282-73-6 93282-74-7 93570-74-2 93659-77-9 93720-24-2
 93807-81-9 94430-90-7 94735-38-3 95494-80-7 95494-81-8
 96418-36-9 96433-10-2 96951-18-7 97001-61-1 97001-62-2
 97283-78-8 97283-79-9 97283-80-2 **106406-85-3**
 IT **106406-85-3**
 RN 106406-85-3 CAOLD
 CN Propene, 1-(benzylsulfonyl)-3-(butylsulfonyl)-, dimer (7CI) (CA
 INDEX NAME)

 CM 1

 CRN 97283-80-2
 CMF C14 H20 O4 S2



=> file zcaplus

FILE 'ZCAPLUS' ENTERED AT 11:05:16 ON 14 AUG 2001
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FILE COVERS 1947 - 14 Aug 2001 VOL 135 ISS 8
 FILE LAST UPDATED: 13 Aug 2001 (20010813/ED)

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=> d l6 1-14 ibib abs hitstr hitrn

L6 ANSWER 1 OF 14 ZCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2001:366650 ZCAPLUS
DOCUMENT NUMBER: 134:359485
TITLE: Method for forming an improved imaging support
for photographic element
INVENTOR(S): Grace, Jeremy M.; Gerenser, Louis J.; Bowman,
Wayne A.; Burns, Elizabeth G.; Castle, Richard
A.; Teegarden, David M.
PATENT ASSIGNEE(S): Eastman Kodak Co., USA
SOURCE: U.S., 13 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6235459	B1	20010522	US 1999-467610	19991220
EP 1111455	A1	20010627	EP 2000-204420	20001208

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: US 1999-467610 A 19991220

AB An imaging support element comprising a polymeric film support and a thermally stable single subbing layer is made by forming a coating over the polymeric film support, the coating having a surface including amine reactive groups in a d. of at least 1010 per cm2 and then heat treating the polymeric film support with the coating

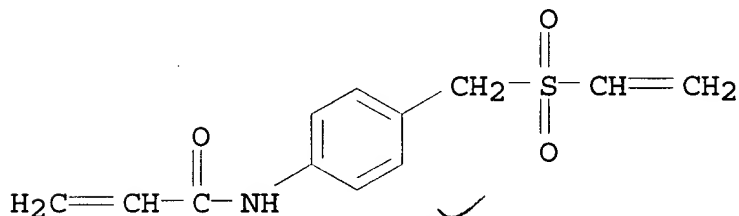
thereon at a temp. in the range of from about 50.degree. C. below the glass transition temp. (Tg) of the polymeric support up to the glass transition temp. (Tg) of the polymeric support. The polymeric film support is nitrogen plasma treated. The layer is preferably formed by coating a monomer soln. on the nitrogen plasma treated polymer support wherein the coated monomer has at least two vinyl sulfone groups which provide the amine reactive groups. Alternatively, the layer may be formed by applying to the polymeric support web a coating including at least one non-amine reactive comonomer and at least one comonomer having amine reactive side groups. The imaging support element of the present invention which includes a nitrogen plasma treated polymeric film having an adhesion promoting layer formed thereon and is subjected to a heat treatment exhibits a redn. in the core-set curling tendency of the polymeric film.

IT 339334-67-7 339334-68-8
 (method for forming improved imaging support for photog. element)
 RN 339334-67-7 ZCAPLUS
 CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-, monosodium salt, polymer with N-[4-[(ethenylsulfonyl)methyl]phenyl]-2-propenamide and 2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 339334-66-6

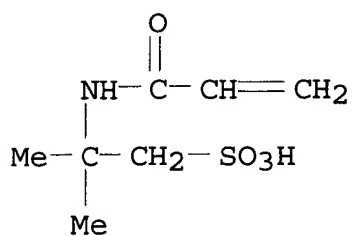
CMF C12 H13 N O3 S



CM 2

CRN 5165-97-9

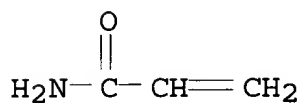
CMF C7 H13 N O4 S . Na



• Na

CM 3

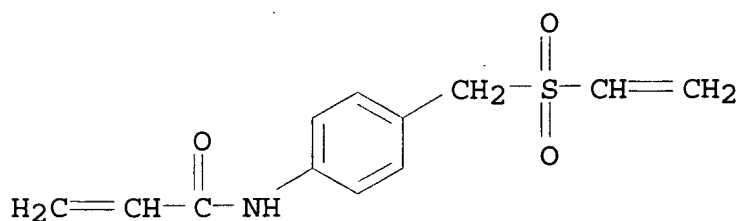
CRN 79-06-1
CMF C3 H5 N O



RN 339334-68-8 ZCAPLUS
CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-, monosodium salt, polymer with N-[4-[(ethenylsulfonyl)methyl]phenyl]-2-propenamide (9CI) (CA INDEX NAME)

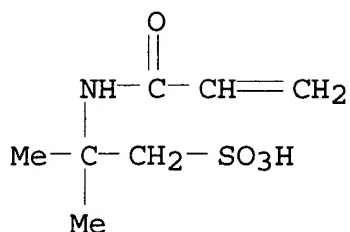
CM 1

CRN 339334-66-6
CMF C12 H13 N O3 S



CM 2

CRN 5165-97-9
CMF C7 H13 N O4 S . Na



• Na

IT 339334-67-7 339334-68-8

(method for forming improved imaging support for photog. element)

REFERENCE COUNT: 15

REFERENCE(S): (4) Chen; US 6037108 2000 ZCAPLUS
 (5) Christian; US 5457013 1995 ZCAPLUS
 (6) Desie; US 5418078 1995 ZCAPLUS
 (7) Eichorst; US 5726001 1998 ZCAPLUS
 (9) Grace; US 5563029 1996 ZCAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 14 ZCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:521376 ZCAPLUS

DOCUMENT NUMBER: 133:208257

TITLE: Main-chain syndioregic nonlinear optical polymers. II. Extended Pi conjugation and improved thermal properties

AUTHOR(S): Stenger-Smith, J. D.; Zarras, P.; Hollins, R. A.; Chafin, A. P.; Merwin, L. H.; Yee, R.; Lindsay, G. A.; Herman, W. N.; Gratz, R. F.; Nickel, E. G.

CORPORATE SOURCE: Research and Technology Office, Code 4T4200D, NAWCWD, China Lake, CA, 93555, USA

SOURCE: J. Polym. Sci., Part A: Polym. Chem. (2000), 38(15), 2824-2839

CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis of new main-chain syndioregic nonlinear optical polymers are presented. In particular, the synthesis of polymers with extended pi conjugation in the chromophore and chromophores with improved thermal stability are presented. The nonlinear optical coeff. of several of the polymers and the optical loss at 1.3 and 1.55 .mu.m were measured and discussed.

IT 290830-10-3P

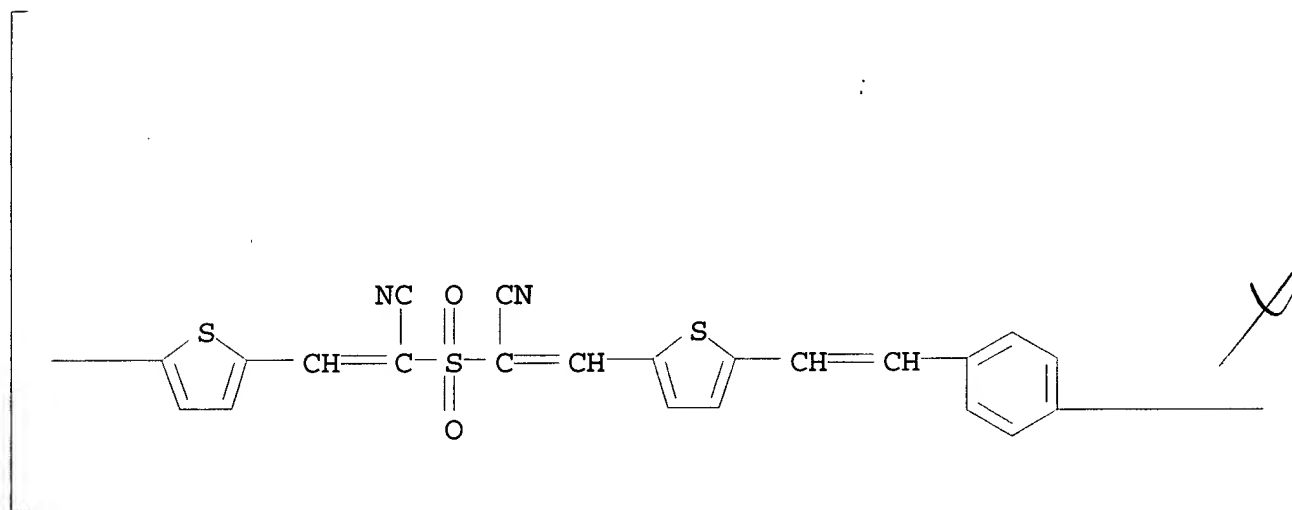
(prepn. and properties of main-chain syndioregic nonlinear

optical polymers with extended Pi conjugation and improved thermal properties)

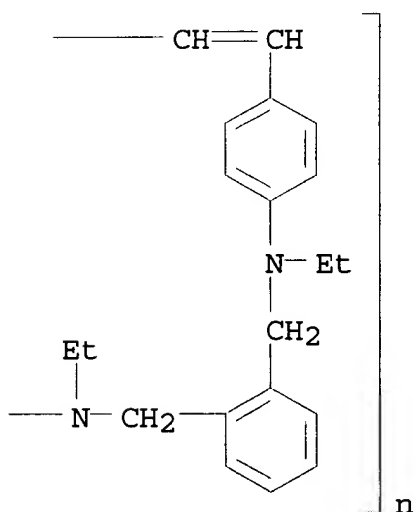
RN 290830-10-3 ZCAPLUS

CN Poly[2,5-thiophenediyl(2-cyano-1,2-ethenediyl)sulfonyl(1-cyano-1,2-ethenediyl)-2,5-thiophenediyl-1,2-ethenediyl-1,4-phenylene(ethylimino)methylene-1,2-phenylenemethylene(ethylimino)-1,4-phenylene-1,2-ethenediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IT 290830-10-3P

(prepn. and properties of main-chain syndioregic nonlinear optical polymers with extended π conjugation and improved thermal properties)

REFERENCE COUNT: 37

REFERENCE(S): (4) Batchelder, D; Proc Nato Advanced Research Workshop on Polydiacetylenes 1985, P187 ZCAPLUS
 (6) Chittibabu, K; Mater Res Soc Symp IV Solid State Mater 1998, P795 ZCAPLUS
 (8) Dalton, L; Macromol Symp 1997, V116, P135 ZCAPLUS
 (11) Davey, M; Polym Prepr (Am Chem Soc Div Polym Chem) 1997, V38(2), P261 ZCAPLUS
 (12) Ermer, S; Proc SPIE-Int Soc Opt Eng 1997, V3006, P397 ZCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 14 ZCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:259845 ZCAPLUS

DOCUMENT NUMBER: 128:328734

TITLE: Silver halide photographic materials

INVENTOR(S): Sotozono, Hirohisa; Shiratsuchi, Kentaro; Ozawa, Takashi; Ishigaki, Kunio

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10111544	A2	19980428	JP 1996-264141	19961004

AB The title materials comprise a support coated with .gtoreq.1 Ag halide emulsion layers .gtoreq.1 of which contains core/shell-type composite particles comprising colloidal silica as the core and an org. polymer having functional groups that react with org. hardeners or gelatin to form a covalent bond as the shell. The materials show improved pressure resistance and anti-adhesive property under high moisture conditions without adverse effects on the surface gloss, haze, graininess, and film strength.

IT 206876-38-2P

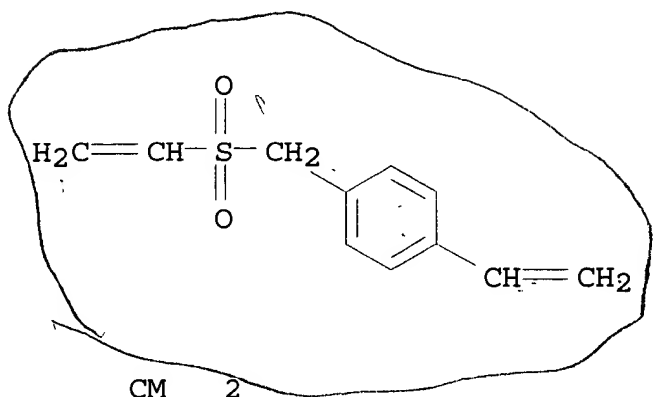
(shell; photog. film contg. core/shell-type composite particles)

RN 206876-38-2 ZCAPLUS

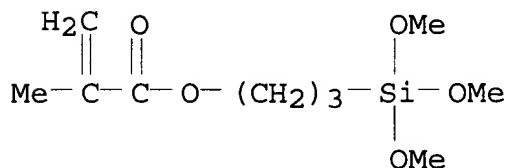
CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with ethenylbenzene and 1-ethenyl-4-[(ethenylsulfonyl)methyl]benzene (9CI) (CA INDEX NAME)

CM 1

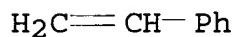
CRN 97746-51-5
CMF C11 H12 O2 S



CRN 2530-85-0
CMF C10 H20 O5 Si



CRN 100-42-5
CMF C8 H8



IT 206876-38-2P

(shell; photog. film contg. core/shell-type composite particles)

L6 ANSWER 4 OF 14 ZCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1996:534197 ZCAPLUS

DOCUMENT NUMBER: 125:301708

TITLE: Synthesis of aliphatic-aromatic
poly(aminosulfone)s by polyaddition reaction
AUTHOR(S): Nedel'kin, V. I.; Frolova, S. Yu.; Tarasov, A.
V.; Moskvichev, Yu. A.

CORPORATE SOURCE: Nesmeyanov, A.N., Institut
Elementoorganicheskikh Soedinenii, Moscow,
117813, Russia

SOURCE: Vysokomol. Soedin., Ser. A Ser. B (1996), 38(4),
715-718

CODEN: VSSBEE

DOCUMENT TYPE:

Journal

LANGUAGE:

Russian

AB New poly(aminosulfones) of linear or network structure were synthesized by reaction of arom. divinyl and distyryl sulfones with 4,4'-diaminodiphenyl oxide and poly(aminophenylene sulfide). The presence of Ph substituent at the double bond of distyryl sulfones decreases its activity in the polyaddn. reaction with arom. amines. Incorporation of Ph substituent into the polymer chain does not show any significant effect on thermal stability of the polymer, because the sulfone group linked to aliph. fragment is the least stable unit in the polymer chain.

IT 183266-39-9P 183266-41-3P 183266-47-9P

(synthesis of polysulfide-polyamine-polysulfones by reaction of arom. divinyl and distyryl sulfones with aniline-sulfur copolymer)

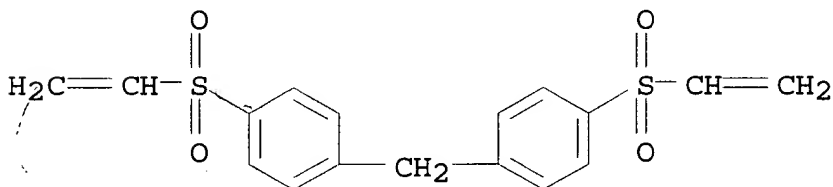
RN 183266-39-9 ZCAPLUS

CN Benzenamine, polymer with 1,1'-methylenebis[4-(ethenylsulfonyl)benzene] and sulfur (9CI) (CA INDEX NAME)

CM 1

CRN 141681-61-0

CMF C17 H16 O4 S2



CM 2

CRN 7704-34-9

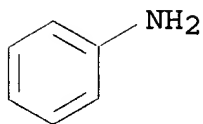
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CRN 62-53-3

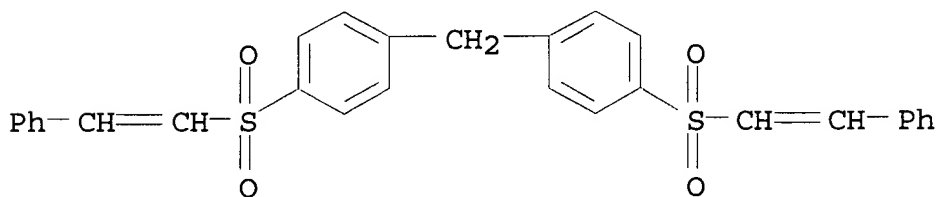
CMF C6 H7 N



RN 183266-41-3 ZCAPLUS
 CN Benzenamine, polymer with 1,1'-methylenebis[4-[(2-phenylethenyl)sulfonyl]benzene] and sulfur (9CI) (CA INDEX NAME)

CM 1

CRN 183266-23-1
 CMF C29 H24 O4 S2



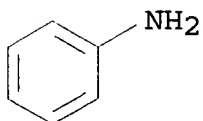
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CRN 7704-34-9
 CMF S

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CM 3

CRN 62-53-3
 CMF C6 H7 N

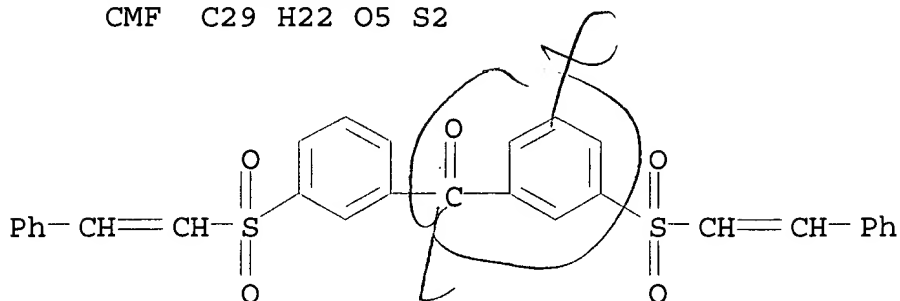


RN 183266-47-9 ZCAPLUS
 CN Methanone, bis[3-[(2-phenylethenyl)sulfonyl]phenyl]-, polymer with benzenamine and sulfur (9CI) (CA INDEX NAME)

CM 1

CRN 183266-26-4

CMF C29 H22 O5 S2



CM 2

CRN 7704-34-9

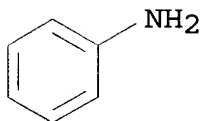
CMF S

S

CM 3

CRN 62-53-3

CMF C6 H7 N



IT 183266-39-9P 183266-41-3P 183266-47-9P

(synthesis of polysulfide-polyamine-polysulfones by reaction of arom. divinyl and distyryl sulfones with aniline-sulfur copolymer)

L6 ANSWER 5 OF 14 ZCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1994:55170 ZCAPLUS

DOCUMENT NUMBER: 120:55170

TITLE: Novel polyaddition catalyzed by transition metals. II. Synthesis of polysulfones using polyaddition of arenedisulfonyl chlorides to diethynyl compounds catalyzed by cuprous chloride

AUTHOR(S): Lim, Jong Chan; Suzuki, Masato; Saegusa, Takeo

CORPORATE SOURCE: Fac. Eng., Kyoto Univ., Kyoto, 606, Japan

SOURCE: J. Polym. Sci., Part A: Polym. Chem. (1993),
31(12), 3093-8
CODEN: JPACEC; ISSN: 0887-624X

DOCUMENT TYPE: Journal

LANGUAGE: English

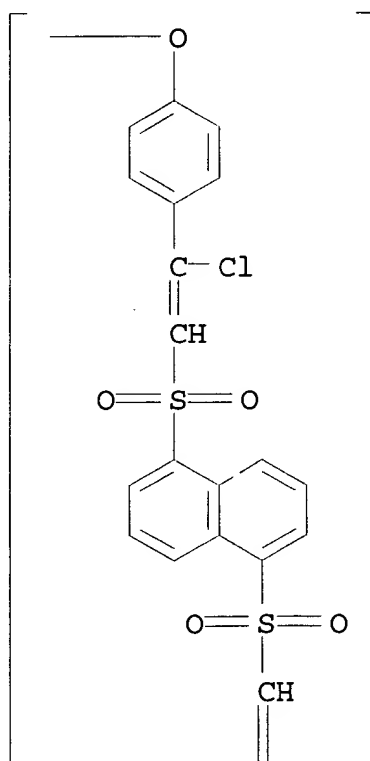
AB CuCl-catalyzed polyaddn. of arenedisulfonyl chloride to diethynyl
compd. was performed to produce polysulfones consisting of sulfonyl
groups between arenylene and chlorovinylene groups. The polyaddn.
proceeded via both trans and cis addn., whose proportion was
affected by the polarity of the reaction medium, the presence of
Et₃N.HCl salt, and the nature of the monomer.

IT 152306-01-9P 152306-05-3P
(prepn. and characterization of)

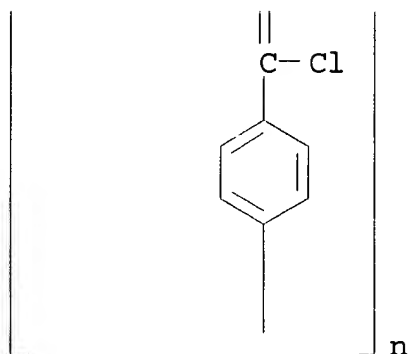
RN 152306-01-9 ZCAPLUS

CN Poly[oxy-1,4-phenylene(1-chloro-1,2-ethenediyl)sulfonyl-1,5-
naphthalenediylsulfonyl(2-chloro-1,2-ethenediyl)-1,4-phenylene]
(9CI) (CA INDEX NAME)

PAGE 1-A

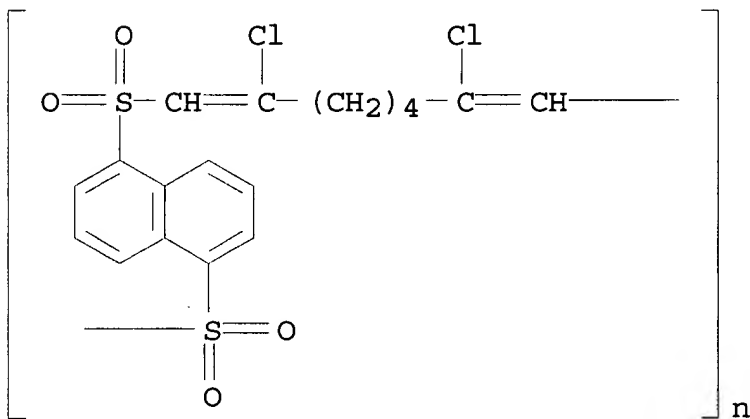


PAGE 2-A



RN 152306-05-3 ZCAPLUS

CN Poly[sulfonyl-1,5-naphthalenediylsulfonyl(2,7-dichloro-1,7-octadiene-1,8-diyl)] (9CI) (CA INDEX NAME)



IT 152306-01-9P 152306-05-3P
(prepn. and characterization of)

L6 ANSWER 6 OF 14 ZCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1993:498359 ZCAPLUS

DOCUMENT NUMBER: 119:98359

TITLE: Highly crosslinked chitosan gels

AUTHOR(S): Tikhonov, Vladimir E.; Yamskov, Igor A.;
Davankov, Vadim A.

CORPORATE SOURCE: Inst. Food Subst., Moscow, 117813, Russia

SOURCE: Makromol. Chem. (1993), 194(7), 1863-9

CODEN: MACEAK; ISSN: 0025-116X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Chitosan was crosslinked to varying extents with
bis(vinylsulfonyl)arenes as crosslinking agents in homogeneous soln.
The effect of reaction conditions on the onset of gelation was

investigated. The rate of gelation depended on the chitosan concn. and the structure of the crosslinking agent used. The degree of crosslinking and content of the remaining pendent double bonds were evaluated. The obtained chitosan gels swell both in org. solvents and in acidic aq. solns.

IT 149304-26-7P 149304-28-9P

(gels, prepn. and properties of crosslinked)

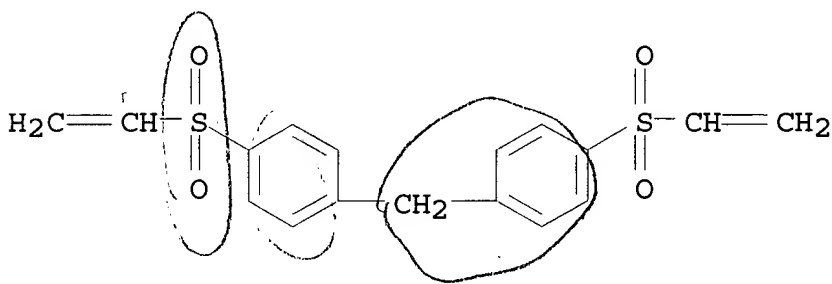
RN 149304-26-7 ZCAPLUS

CN Chitosan, polymer with 1,1'-methylenebis[4-(ethenylsulfonyl)benzene] (9CI) (CA INDEX NAME)

CM 1

CRN 141681-61-0

CMF C17 H16 O4 S2



CM 2

CRN 9012-76-4

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 149304-28-9 ZCAPLUS

CN Chitosan, polymer with 4,4'-bis(ethenylsulfonyl)-1,1'-biphenyl (9CI) (CA INDEX NAME)

CM 1

CRN 9012-76-4

CMF Unspecified

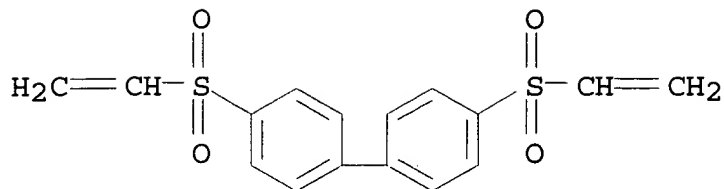
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 6729-80-2

CMF C16 H14 O4 S2



X

IT 149304-26-7P 149304-28-9P

(gels, prepn. and properties of crosslinked)

L6 ANSWER 7 OF 14 ZCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1992:460512 ZCAPLUS

DOCUMENT NUMBER: 117:60512

TITLE: New conductive polymer and conductor from the polymer

INVENTOR(S): Ono, Shigetoshi; Funatsu, Eiji

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

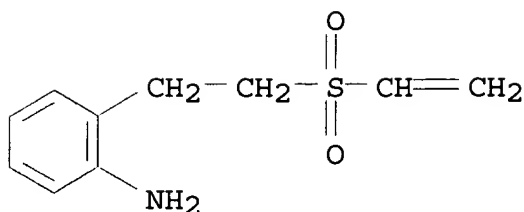
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 04032104	A2	19920204	JP.1990-136269	19900525
AB	A conductive polymer with a high mech. strength is described, which has been obtained by crosslinking a conductive polymer having .gtoreq.1 reactive group. A conductor is also described, which comprises a laminate of the above polymer and a solid electrolyte. The conductor is useful in a secondary battery.				
IT	142357-34-4P				
	(elec. conductor, prepn. of)				
RN	142357-34-4 ZCAPLUS				
CN	Benzenamine, 2-[2-(ethenylsulfonyl)ethyl]-, polymer with benzenamine (9CI) (CA INDEX NAME)				

CM 1

CRN 142357-33-3

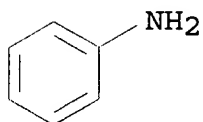
CMF C10 H13 N O2 S



CM 2

CRN 62-53-3

CMF C6 H7 N



IT 142357-34-4P
(elec. conductor, prepn. of)

L6 ANSWER 8 OF 14 ZCAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1992:256159 ZCAPLUS
 DOCUMENT NUMBER: 116:256159
 TITLE: Synthesis of new poly(sulfide sulfones) by
 polyaddition reaction
 AUTHOR(S): Nedel'kin, V. I.; Tarasov, A. V.; Timoshenko, G.
 N.; Moskvichev, Yu. A.; Sergeev, V. A.
 CORPORATE SOURCE: Inst. Elementoorg. Soedin. im. Nesmeyanova,
 Moscow, USSR
 SOURCE: Vysokomol. Soedin., Ser. A (1992), 34(2), 14-19
 CODEN: VYSAAF; ISSN: 0507-5475
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

AB Some new polysulfide-sulfones of mol. wt. (10-12) .times. 103 contg.
 arom. and CH2 fragments in the backbone were synthesized by
 polyaddn. of 4,4'-oxydiphenyl dithiol to 4,4'-
 bis(vinylsulfonyl)diphenyl bridge compds. The reaction mechanism
 and the structure of the products were studied by prepn. of model
 compds. Thermal properties of the polysulfide-sulfones were
 studied, with their degrdn. beginning >250.degree.. These polymers
 have the lower thermal stability than completely arom.
 poly(1,4-phenylenesulfide sulfones).

IT 141681-62-1P 141681-65-4P
(prepn. and thermal properties of)

RN 141681-62-1 ZCAPLUS

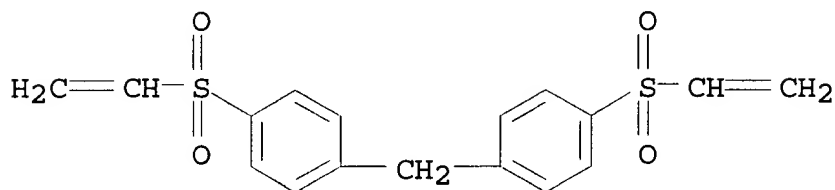
CN Benzenethiol, 4,4'-oxybis-, polymer with 1,1'-methylenebis[4-

(ethenylsulfonyl)benzene] (9CI) (CA INDEX NAME)

CM 1

CRN 141681-61-0

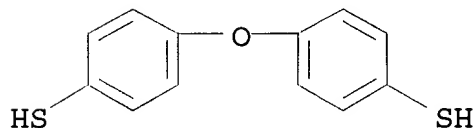
CMF C17 H16 O4 S2



CM 2

CRN 17527-79-6

CMF C12 H10 O S2



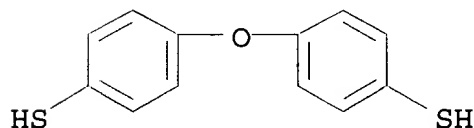
RN 141681-65-4 ZCAPLUS

CN Benzenethiol, 4,4'-oxybis-, polymer with 4,4'-bis(ethenylsulfonyl)-1,1'-biphenyl (9CI) (CA INDEX NAME)

CM 1

CRN 17527-79-6

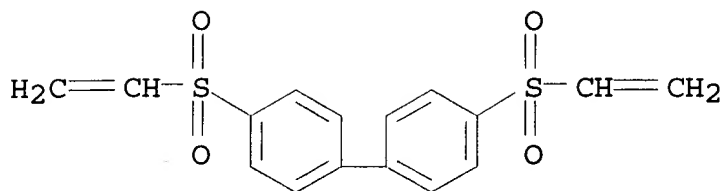
CMF C12 H10 O S2



CM 2

CRN 6729-80-2

CMF C16 H14 O4 S2



IT 141681-62-1P 141681-65-4P
(prepn. and thermal properties of)

L6 ANSWER 9 OF 14 ZCAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1990:45608 ZCAPLUS
 DOCUMENT NUMBER: 112:45608
 TITLE: Silver halide photographic material with improved hardening agent
 INVENTOR(S): Akyama, Takeo
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01197741	A2	19890809	JP 1988-22599	19880201

AB The material comprises a photog. layer contg. .gtoreq.1 light-sensitive Ag halide emulsion layer and .gtoreq.1 light-nonsensitive layer with pH .gtoreq.6.5 on a substrate, of which .gtoreq.1 layer is hardened by a photog. hardening agent selected from a vinylsulfon, a halogeno-s-triazine, and a polymer. A photog. material using a protective layer of pH 7.2 and contg. EtC(CH2SO2CH=CH2)3 as a hardening agent showed excellent fog resistance, sensitivity, scratch resistance, and swelling for 3 days.

IT 121934-61-0

(photog. hardening agent, for scratch resistance)

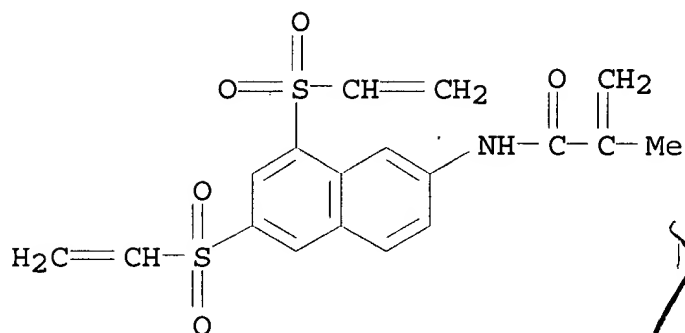
RN 121934-61-0 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-sulfopropyl ester, potassium salt, polymer with N-[6,8-bis(ethenylsulfonyl)-2-naphthalenyl]-2-methyl-2-propenamide and ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 121934-60-9

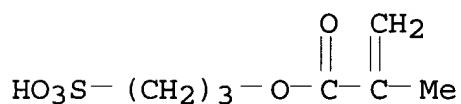
CMF C18 H17 N O5 S2



CM 2

CRN 31098-21-2

CMF C7 H12 O5 S . K



• K

CM 3

CRN 108-05-4

CMF C4 H6 O2



IT 121934-61-0

(photog. hardening agent, for scratch resistance)

L6 ANSWER 10 OF 14 ZCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1989:467793 ZCAPLUS

DOCUMENT NUMBER: 111:67793

TITLE: Silver halide photographic materials using polymeric hardeners

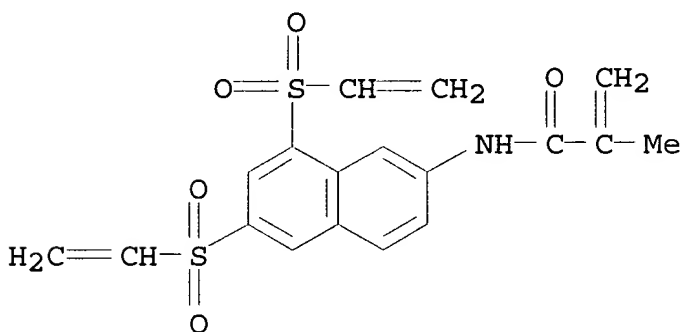
INVENTOR(S): Tachibana, Noriki; Ueda, Eiichi; Kagawa, Nobuaki

PATENT ASSIGNEE(S): Konica Co., Japan

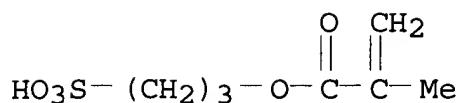
SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.

DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: 1 Japanese
 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 63231439	A2	19880927	JP 1987-64395	19870320
AB	The title materials showing adverse effects on photog. performance characteristics and no changes in swelling properties with time contain .gtoreq.1 nonphotosensitive layer and .gtoreq.1 silver halide emulsion layer, and .gtoreq.1 of the layers is hardened with a polymeric hardener having repeating units of the formula -(A)a- and -[CH ₂ C(R ₁)(JLSO ₂ X)]b (A = comonomer unit; R ₁ = H, C ₁ -6 alkyl, halogen; J = arylene, CO ₂ , CONR ₂ ; R ₂ = H, C ₁ -6 alkyl, C ₆ -10 aryl; L = C ₆ -20 arylene, C ₁ -10 alkylene, aralkylene, alkenylene; X = vinyl, CH ₂ CH ₂ Q where Q = a group that can be substituted by a nucleophile or can be eliminated as HQ by a base; a = 0-99; b = 1-100).				
IT	121934-61-0	(photog. hardener, in color films)			
RN	121934-61-0	ZCAPLUS			
CN	2-Propenoic acid, 2-methyl-, 3-sulfopropyl ester, potassium salt, polymer with N-[6,8-bis(ethenylsulfonyl)-2-naphthalenyl]-2-methyl-2-propenamide and ethenyl acetate (9CI) (CA INDEX NAME)				
CM	1				
CRN	121934-60-9				
CMF	C18 H17 N O5 S2				



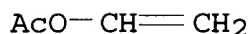
CM 2
 CRN 31098-21-2
 CMF C7 H12 O5 S . K



• K

CM 3

CRN 108-05-4
CMF C4 H6 O2



IT 121934-61-0
(photog. hardener, in color films)

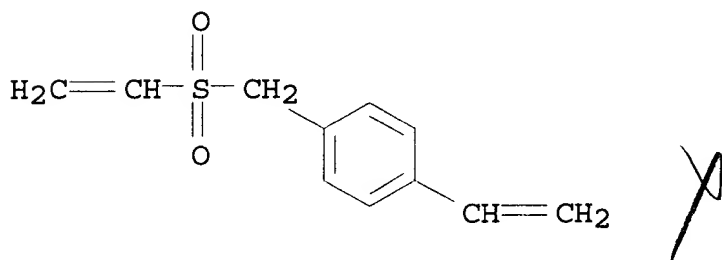
L6 ANSWER 11 OF 14 ZCAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1989:202742 ZCAPLUS
 DOCUMENT NUMBER: 110:202742
 TITLE: Silver halide photographic material containing vinyl sulfone type polymer latex to improve mechanical properties
 INVENTOR(S): Tachibana, Noriki; Nakagawa, Satoshi
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
	JP 63220239	A2	19880913	JP 1987-54577	19870310
AB	The claimed photog. material having .gtoreq.1 hydrophilic colloid layer on its subbed support contains in .gtoreq.1 of the colloid layers a latex dispersion of a polymer having a vinyl sulfone group or a group derived therefrom. The mech. properties of the material, such as dimension stability and clarity of the colloid layers, are improved by the incorporated latex. Thus, 30 wt.% of the gelatin binder of each layer of a multilayer color neg. film was substituted with a latex of a polymer comprising [CH2CH(CO2Et)]60[CH2CH(CONHCH2N HOCCH2CH2SO2CH:CH2)]40.				
IT	120515-44-8		120515-45-9		
	(latexes, photog. material contg.)				

RN 120515-44-8 ZCAPLUS
CN 2-Propenoic acid, ethyl ester, polymer with 1-ethenyl-4-
[(ethenylsulfonyl)methyl]benzene (9CI) (CA INDEX NAME)

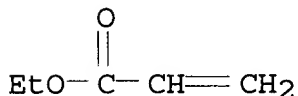
CM 1

CRN 97746-51-5
CMF C11 H12 O2 S



CM 2

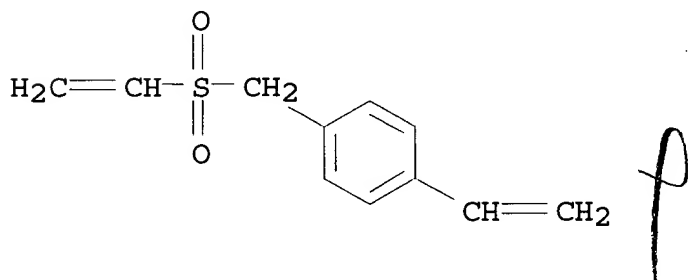
CRN 140-88-5
CMF C5 H8 O2



RN 120515-45-9 ZCAPLUS
CN 2-Propenoic acid, polymer with butyl 2-propenoate and
1-ethenyl-4-[(ethenylsulfonyl)methyl]benzene (9CI) (CA INDEX NAME)

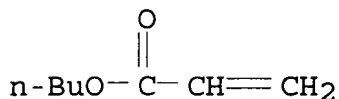
CM 1

CRN 97746-51-5
CMF C11 H12 O2 S



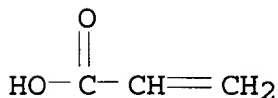
CM 2

CRN 141-32-2
CMF C7 H12 O2



CM 3

CRN 79-10-7
CMF C3 H4 O2



IT 120515-44-8 120515-45-9
(latexes, photog. material contg.)

L6 ANSWER (12) OF 14 ZCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1985:484579 ZCAPLUS
DOCUMENT NUMBER: 103:84579
TITLE: Element for electrophoresis
INVENTOR(S): Ogawa, Masashi; Shiraishi, Hisashi; Ikeda, Teppei
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd. , Japan
SOURCE: Eur. Pat. Appl., 34 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
EP 126638	A2	19841128	EP 1984-303396	19840518
EP 126638	A3	19860409		
EP 126638	B1	19880504		
R: CH, DE, FR, GB, LI, SE				
JP 59212752	A2	19841201	JP 1983-87966	19830519
US 4600641	A	19860715	US 1985-749125	19850626
PRIORITY APPLN. INFO.:			JP 1983-87966	19830519
			US 1984-611591	19840518

AB An element contg. (1) a support layer (e.g., plastic sheet), (2) a polymeric adhesive layer, and (3) a medium layer (e.g., polyacrylamide gel) is described for the sepn. of, e.g., proteins by

slab electrophoresis. The element provides improved adhesion between the support and the gel and prevents sepn. of the gel from the support during staining and drying. The gel may contain, e.g., an anionic surfactant, oxidn. inhibitor, water-sol. polymer for elasticity, agarose to control viscosity, polyol wetting agent, etc. The gel is formed by radical crosslinking polymn. initiated by a peroxide and(or) UV irradiation. Thus, a copolymer of N-[[3-(2-chloroethylsulfonyl)propanamido]methyl]acrylamide and acrylamide was prepd. and coated on a polyethylene terephthalate sheet, which had been made hydrophilic by UV irradiation, and dried at 110.degree. to form a .apprx.0.5-.mu.m-thick adhesive layer. On the adhesive layer was formed a polyacrylamide gel layer (0.5-mm-thick) that contained SDS, agarose, and polyacrylamide and that was polymd. with NH₄ peroxodisulfate and N,N,N',N'-tetramethylethylenediamine as polymn. initiators. Proteins were sepd. by electrophoresis on this element and stained with Coomassie Blue R 250. The gel membrane stayed attached to the support during the staining and drying procedures.

IT 97746-52-6P

(prepn. of, as adhesive layer in gel electrophoresis element)

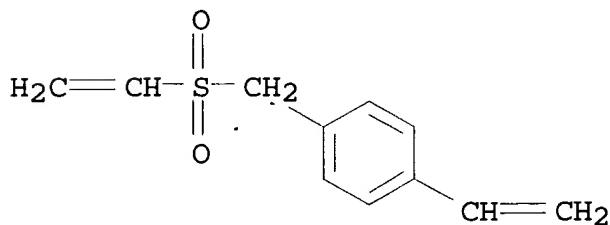
RN 97746-52-6 ZCAPLUS

CN 2-Propenamide, N-(hydroxymethyl)-, polymer with 1-ethenyl-4-[(ethenylsulfonyl)methyl]benzene and 2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 97746-51-5

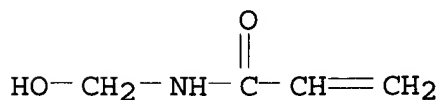
CMF C11 H12 O2 S



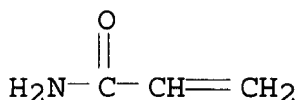
CM 2

CRN 924-42-5

CMF C4 H7 N O2



CM 3

CRN 79-06-1
CMF C3 H5 N O

IT 97746-52-6P

(prepn. of, as adhesive layer in gel electrophoresis element)

L6 ANSWER 13 OF 14 ZCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1981:140209 ZCAPLUS

DOCUMENT NUMBER: 94:140209

TITLE: Synthesis of polysulfone-sulfides by
polyadditions of dithiols to divinyl sulfonesAUTHOR(S): Imai, Yoshio; Asamidori, Yasunobu; Inoue,
Tomihiko; Ueda, MitsuruCORPORATE SOURCE: Fac. Eng., Yamagata Univ., Yamagata, 992, Japan
SOURCE: J. Polym. Sci., Polym. Chem. Ed. (1981), 19(2),
583-90

CODEN: JPLCAT; ISSN: 0449-296X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polyaddns. of 1,6-hexanedithiol and 1,10-decanedithiol to divinyl sulfone(I) in hexamethylphosphoramide in the presence of Et₃N or KF gave polysulfone-sulfides with inherent viscosities .1 to req. 0.8 dL/g. Polymns. of other dithiols with I and distyryl sulfone (II) were also carried out, however, only low-mol.-wt. polymers were obtained. The series of polymers derived from I were highly cryst. and sol. in hot dimethylacetamide and hot m-cresol, whereas a polymer from II was quite amorphous and showed excellent soly. in a wide range of solvents.

IT 77072-29-8P

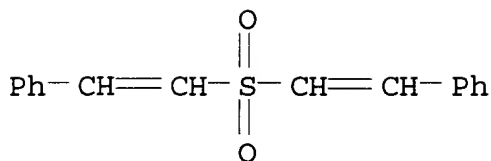
(prepn. and properties of)

RN 77072-29-8 ZCAPLUS

CN 1,4-Benzenedimethanethiol, polymer with 1,1'-(sulfonyldi-2,1-ethenediyl)bis[benzene] (9CI) (CA INDEX NAME)

CM 1

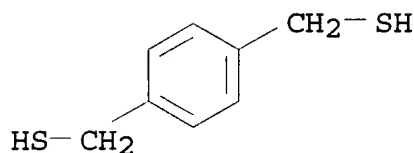
CRN 4973-50-6
CMF C16 H14 O2 S



CM 2

CRN 105-09-9

CMF C8 H10 S2



IT 77072-29-8P
(prepn. and properties of)

L6 ANSWER 14 OF 14 ZCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1972:420490 ZCAPLUS

DOCUMENT NUMBER: 77:20490

TITLE: Polyhydroquinone sulfones. VI. Synthesis of a redox polymer based on 2-(vinylsulfonyl)-1,4-naphthohydroquinone

AUTHOR(S): Manecke, Georg; Ruehl, Christian S.; Wehr, Gregor

CORPORATE SOURCE: Inst. Org. Chem., Freie Univ. Berlin, Berlin-Dahlem, Ger.

SOURCE: Makromol. Chem. (1972), 154, 121-8

CODEN: MACEAK

DOCUMENT TYPE: Journal

LANGUAGE: German

AB 1,4-Naphthoquinone is treated with $\text{ClCH}_2\text{CH}_2\text{S(O)OH}$ and Ac_2O and then dehydrochlorinated with Et_3N in THF to prep. 1,4-diacetoxy-2-(vinylsulfonyl)naphthalene (I) [35056-87-2] which copolymerizes in sulfolane in the presence of Bz_2O_2 to give a 1,4-diacetoxy-2-(vinylsulfonyl)naphthalene-styrene copolymer [35064-95-0] or a 1,4-diacetoxy-2-(vinylsulfonyl)naphthalene-divinylbenzene-styrene copolymer (II) [9041-43-4] but does not homopolymerize by heating or by radical polymn. II is chlorosulfonated and saponified to prep. a cation exchanger having exchange capacity 3.28 mequiv./g and redox capacity 3.2 mequiv./g.

IT 9041-43-4P 35064-95-0P
(prepn. of)

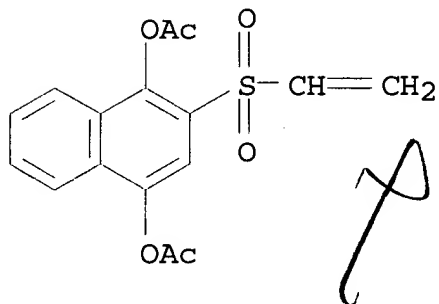
RN 9041-43-4 ZCAPLUS

CN 1,4-Naphthalenediol, 2-(ethenylsulfonyl)-, diacetate, polymer with diethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 35056-87-2

CMF C16 H14 O6 S



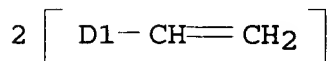
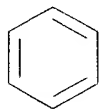
CM 2

CRN 1321-74-0

CMF C10 H10

CCI IDS

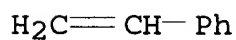
CDES 8:ID



CM 3

CRN 100-42-5

CMF C8 H8



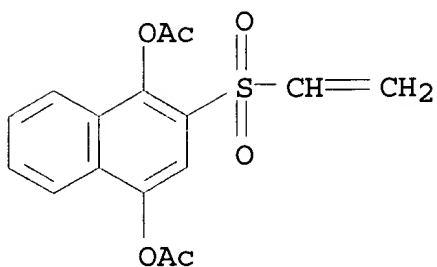
RN 35064-95-0 ZCAPLUS

CN 1,4-Naphthalenediol, 2-(ethenylsulfonyl)-, diacetate, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 35056-87-2

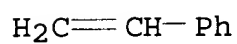
CMF C16 H14 O6 S



CM 2

CRN 100-42-5

CMF C8 H8



IT 9041-43-4P 35064-95-0P
(prepn. of)

ACCESSION NUMBER: 1998:259845 ZCAPLUS
 DOCUMENT NUMBER: 128:328734
 TITLE: Silver halide photographic materials
 INVENTOR(S): Sotozono, Hirohisa; Shiratsuchi, Kentaro; Ozawa, Takashi; Ishigaki, Kunio
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
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 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 10111544	A2	19980428	JP 1996-264141	19961004
AB	The title materials comprise a support coated with .gtoreq.1 Ag halide emulsion layers .gtoreq.1 of which contains core/shell-type composite particles comprising colloidal silica as the core and an org. polymer having functional groups that react with org. hardeners or gelatin to form a covalent bond as the shell. The materials show improved pressure resistance and anti-adhesive property under high moisture conditions without adverse effects on the surface gloss, haze, graininess, and film strength.				
IT	206876-38-2P				
	(shell; photog. film contg. core/shell-type composite particles)				
RN	206876-38-2 ZCAPLUS				
CN	2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with ethenylbenzene and 1-ethenyl-4-[(ethenylsulfonyl)methyl]benzene (9CI) (CA INDEX NAME)				

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